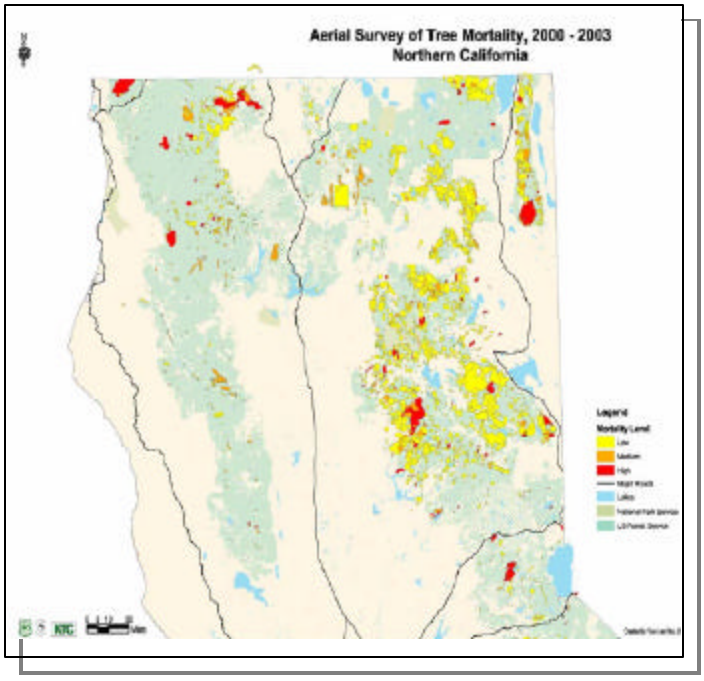
Fuels Assessment

California Northern Region

As live and dead fuels continue to dry, they become more susceptible to combustion. Tree mortality caused by insects, disease, early drying and the downing of trees and limbs due to excessive winds and snowfall has impacted significant areas of conifers, hardwoods and brush. Fuel conditions of particular concern include standing and down trees in fir species at upper elevations and an abundance of dead hardwoods affected by Sudden Oak Death disease.



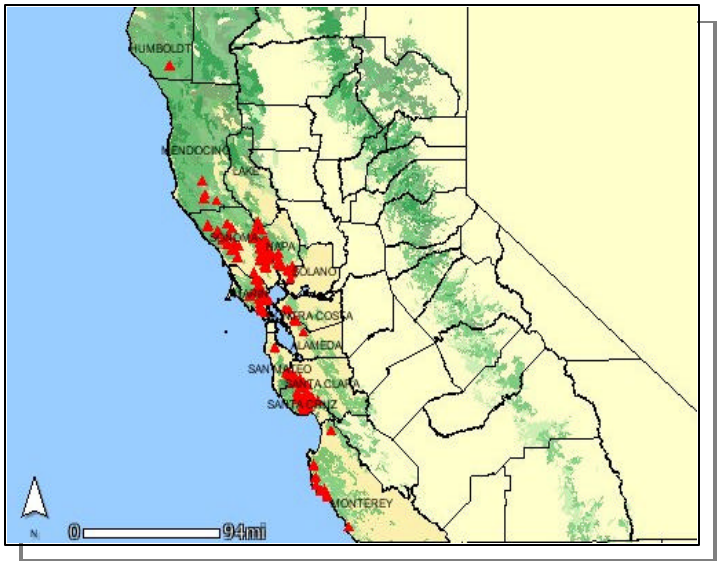
Also, significant areas of hanging slash and dead ladder fuels resulted from a heavy snowfall north and west of Redding. These areas will see increased potential for higher intensity fires, torching, crowning and spotting.

The 3½-week warming trend in early March has resulted in green up of live fuels 2-4 weeks ahead of normal. Fuels availability has increased at lower elevations (below 2000 feet) due to earlier green-up and heading out of annual and perennial grasses.

The fine fuels have begun to cure on south aspects and valley bottoms. The 30-40% reduction of snow-pack from the end of February to the end of March has allowed earlier curing of live fuels and drying of dead fuels.

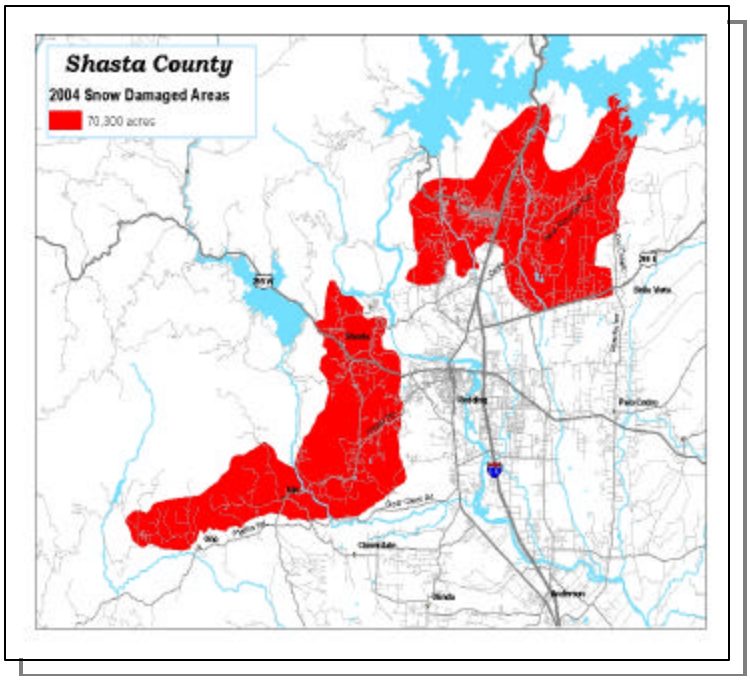
Indications from the current climate and weather outlook are that fire season could start earlier, and therefore be of longer duration.

Special fuel considerations include tree mortality and the snow damage area in central Shasta County. This snow damage area is of particular concern because of the wildland urban inter-mix. Increased fuel loadings are expected to dry rapidly as summer approaches.



Confirmed Sudden Oak Death Sites

Fuels Assessment (continued)



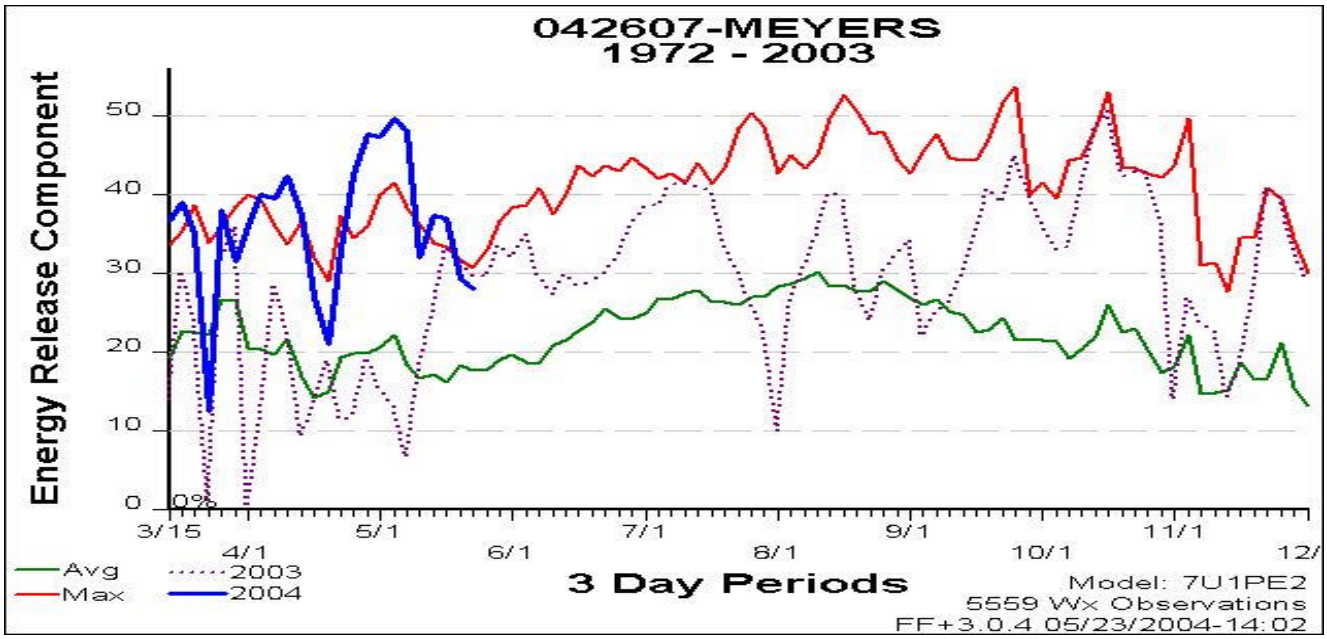
California Northern Region

The tree mortality from insects, disease, and the downing of trees due to excessive winds has affected significant areas of hardwoods and conifers. These areas will see an increased potential for higher intensity fires, torching, crowning, and spotting.

Energy Release Component Charts

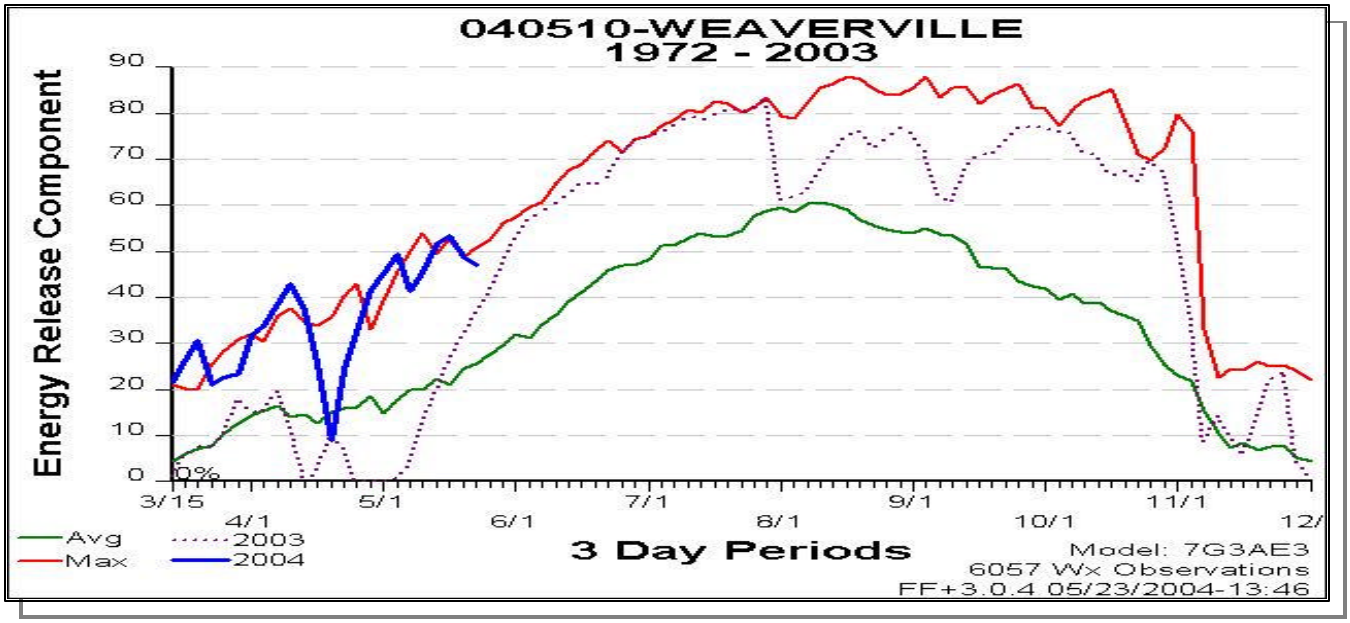
The Energy Release Component is an index related to how hot a fire could burn during the peak burning conditions of a 24-hour period. It is indicative of the effects of intermediate to long-term drying of both live and dead fuels absent the influence of wind. It is expressed as total available energy (BTUs) per square foot within the flaming front of a head fire. High and extreme indices correlate to difficulty of controlling a fire.

Exhibit 5 – **Meyers, El Dorado County CA**



Energy Release Component Charts

Exhibit 6 – Weaverville - Shasta National Forest, Trinity County CA



Fuels Assessment (continued)

California Southern Region

Approximately 350,000 acres in and around the San Bernardino NF has continued to experience significant mortality in timber and brush with the timber fuel loadings in the area around Lake Arrowhead estimated to be in the 300-500 stems per acre range.

On the San Bernardino National Forest alone it is estimated that nearly 12 million trees are either dead or dying. Of these, an estimated 4 million trees have diameters of 6 inches or larger

Initial attack resources will be instrumental in keeping fires out of crowns. Firefighters need to recognize and be aware of the transition from a surface fire to a crown fire.

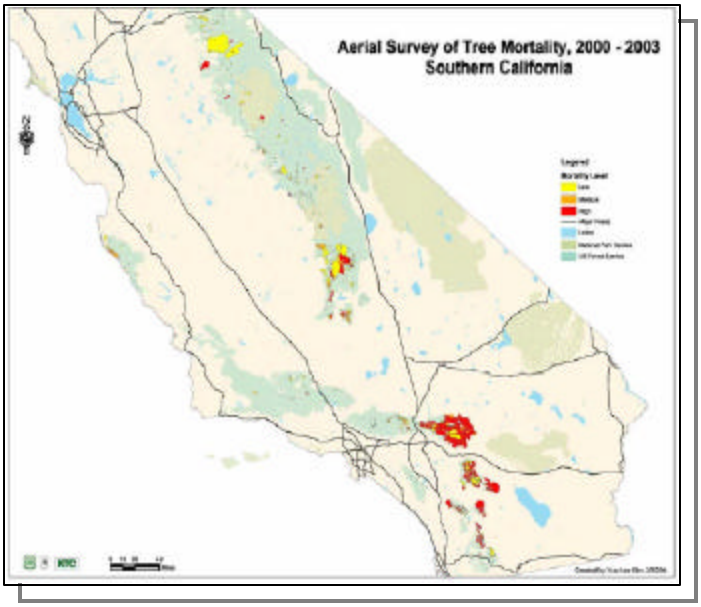
Firefighters need to recognize and be aware of the transition from a surface fire to a crown fire. Passive crowning is likely in many areas.

Wind and slope will dictate whether an active crown fire occurs. If 20-foot wind speeds are below 7 mph on flat ground or gentle slopes then moderate spotting distances of up to ½ mile are possible. The same could be said with little or no wind on slopes less than 50%.

If a surface fire establishes and slopes greater than 50% and/or wind speeds greater than 7 miles per hour occurs an active crown fire is probable, which can move into an independent crown fire.

Fuels Assessment (continued)

California Southern Region



There are three primary factors that make the fire potential for this season different than normal:

- An early onset of low elevation fires due to cured fine fuels
- Long-term drought stress on the vegetation
- Widespread brush and timber mortality.

It was due to these conditions that we in the Southern Region experienced an increase in the amount of initial attack activity at the lower elevations in May.

The most critical areas are those areas experiencing brush die-back and tree mortality in urban interface areas in and around the three southern Forests (ANF, BDF, and CNF). Timber mortality continues to spread, notably in high-density urban interface areas. Existing fuel conditions in these areas indicate abnormally high resistance to control and the potential for a high rate of spread.

Energy Release Components (ERCs) recorded for the months of April and early May reflect August near-record highs (see Exhibits 7 and 8).

Fuels Assessment (continued)

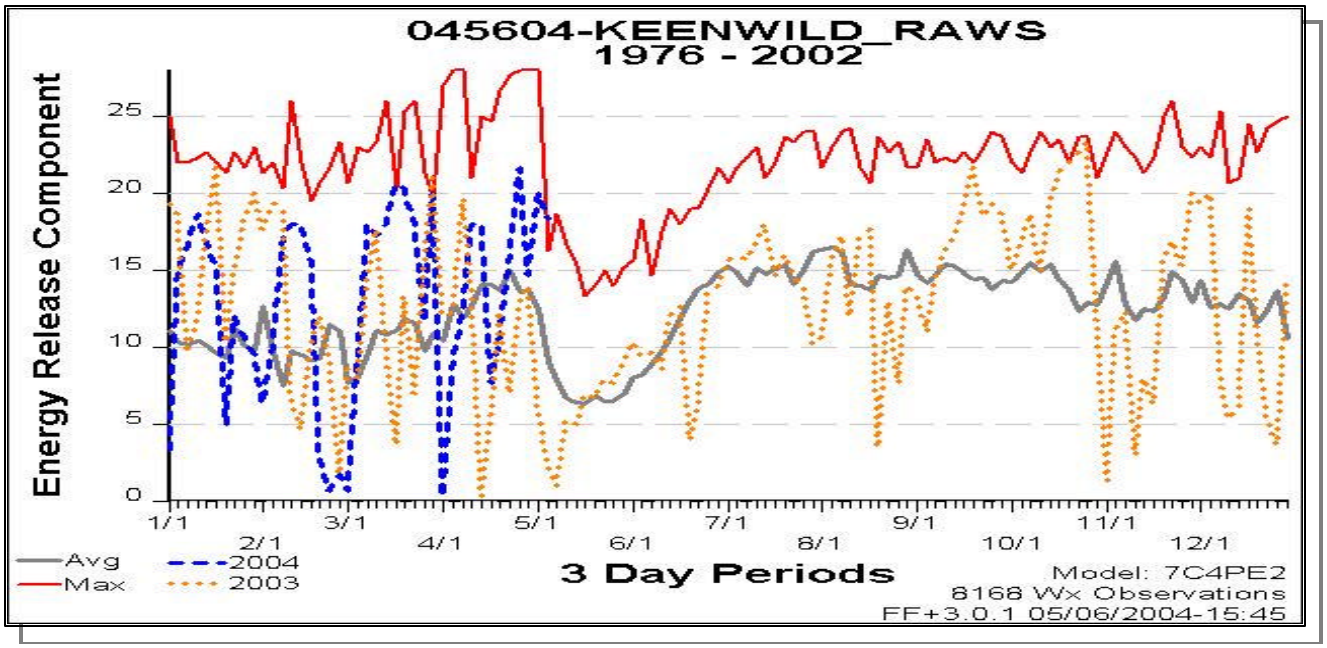
California Southern Region

These conditions are likely to persist or increase throughout the summer months. Many of these mountain and foothill communities have significant populations and limited means of egress, and firefighting efforts in these communities will be difficult and dangerous as demonstrated in the destructive fires in October and November of 2003.

Those fires burned over 720,000 acres in ten days, with the majority of acres burning in brush. However, most areas affected by vegetation stress and timber and brush mortality did not burn. These heavily populated areas also bring increased potential for human-caused wildfires.

Energy Release Component Charts

Exhibit 7 - Keenwild - San Bernardino National Forest, Riverside County CA



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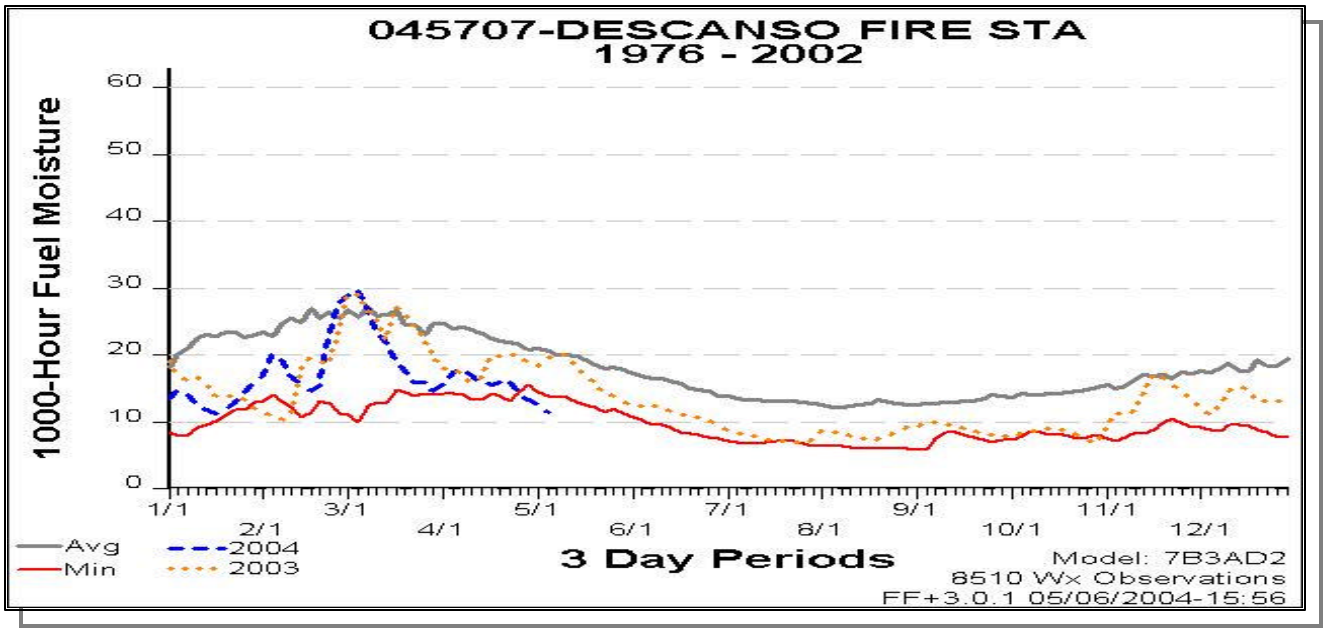
Energy Release Component Charts

Exhibit 8 - Descanso - Cleveland National Forest, San Diego County CA



Fire Behavior

The combination of heavy vegetation mortality, heavy fuel loading, low live fuel moistures, low 1,000 hour fuel moistures and the fire weather outlook of above normal temperatures all indicate a high potential for extreme fire behavior throughout both the Northern and Southern parts of the State.

Trigger Points for Extreme Fire Behavior

Extreme fire behavior trigger points are:

- Relative humidity below 20%
- Eye level winds at 10 mph or higher
- 1,000 hour fuel moistures below 8%
- Burning index of 50 or greater in 1000-hour fuels